UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,715	02/05/2004	Gretchen Frantz	P5035R1	8324

9157 7590 05/04/2005

GENENTECH, INC.
1 DNA WAY
SOUTH SAN FRANCISCO, CA 94080

EXAMINER	
YAO, LEI	

ART UNIT	PAPER NUMBER
1642	

DATE MAILED: 05/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/773,715	FRANTZ ET AL.	
	Examiner	Art Unit	
	Lei Yao, Ph.D.	1642	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10/4/2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *17-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *17-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *3/21/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This is office action is written in the reply filed 10/4/2004.

Claims 1-16 are cancelled. Claims 17-26 are pending and examined on the merits.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 17-26 are rejected under 35 U.S.C. 101 because the claimed invention is not supported by either a specific, substantial, and credible asserted utility or a well established utility.

Claims 17-26 are drawn to a method of binding an antibody to a human uterine cell that expresses a protein consisting SEQ ID NO: 6 or the amino acid sequence encoded by the SEQ ID NO: 3.

The specification teaches that amino acid sequence SEQ ID NO: 6 is derived from the coding sequence of SEQ ID NO: 3. The specification teaches a nucleotide sequence SEQ ID NO: 3 of a TAT136 cDNA, wherein SEQ ID NO:3 is a clone designated herein as DNA59610 (page 26, line 12-19 and figure 3 and 6). The specification further teaches that by *in situ* Hybridization, the mRNA of DNA59610, is found positive expression in 5 of 9 uterine endometrial adenocarcinoma samples, whereas the expression in normal uterine tissue is negative (page 119, line 4-5).

The instant claims are drawn to a method wherein an antibody is bound to the protein of SEQ ID NO: 6 on human uterine cells. In order to fulfill the requirements of 35 U.S.C. 101, said binding must be indicative of a specific, substantial and credible utility, such as the diagnosis of a pathological state. The specification does not teach whether the levels of TAT136 protein, as opposed to the polynucleotides encoding said protein, in the uterine endometrial adenocarcinoma samples are higher than normal uterine tissue. The specification does not provide any objective evidence on the expression of TAT136 protein in either uterine endometrial adenocarcinoma samples or normal uterine tissue samples. The specification

provides no teaching on binding of an antibody to the polypeptide of TAT136 or to the protein of SEQ ID NO: 6. The specification provides no teaching on binding of an antibody to any of the uterine cells. The specification provides no teaching on the expression of polypeptide of SEQ ID NO: 6 on any primary uterine cells or established uterine cell lines.

Therefore, the specification only provides an evidence of the expression of DNA59610 in the cancer and normal uterine samples by showing the levels of the message RNA (mRNA). The specification does not provide any teaching on the levels of DNA59610 protein in cancer or normal uterine cells. The specification does not provide any teaching on whether the protein expression is correlated with the levels of mRNA in any uterine or other cells. The art recognizes that expression of mRNA does not dictate nor predict the translation of such mRNA into a polypeptide. For examples, the abstract of Brennan et al., (Journal of Autoimmunity, 1989, vol. 2 suppl., pp. 177-186) teaches that high levels of the mRNA for TNF alpha were produced in synovial cells, but that levels of the TNF alpha protein were undetectable. The abstract of Zimmer (Cell Motility and the Cytoskeleton, 1991, vol. 20, pp. 325-337) teaches that there is no correlation between the mRNA level of calcium-modulated protein S100 alpha and the protein level, indicating that S100 protein is post-transcriptionally regulated. The abstract of Powell et al., (Pharmacogenetics, 1998, Vol. 8, pp. 411-421) teaches that mRNA levels for cytochrome P450 E1 did not correlate with the level of corresponding protein, and conclude that the regulation of said protein is highly complex. In this event although the mRNA of DNA 59610 was demonstrated to be overexpressed in uterine endometrial adenocarcinoma samples, according the teachings in the art, said demonstration cannot be relied upon to anticipate that the protein of SEQ ID NO: 6 would be similarly overexpressed in same cancer cells.

More evidence abounds in which protein levels do not correlate with steady-state mRNA levels or alterations in mRNA levels are following: The abstract of Hell et al., (Laboratory Investigation, 1995, Vol. 73, pp. 492-496) teaches that cells in all types of Hodgkin's disease exhibited high levels of bcl-2 mRNA, while the expression of the Bcl-2 protein was not homogenous to said cells. The abstract of Carrere et al., (Gut, 1999, vol. 44, pp. 545-551) teaches an absence of correlation between protein and mRNA levels for the Reg protein. The abstract of Guo et al., (Journal of Pharmacology and Experimental

Therapeutics, 2002, vol. 300, pp. 206-212) teaches that Oatp2 mRNA levels did not show a correlation with Oatp2 protein levels, suggesting that regulation of the Oatp2 protein occurs at both transcriptional and post-translational level. These references serve to demonstrate that levels polynucleotide transcripts cannot be relied upon to anticipate levels of protein expression. Further, the abstract of Jang et al., (Clinical and Experimental Metastasis, 1997, vol. 15, pp. 469-483) teaches that further studies are necessary to determine if changes in protein levels track with changes in mRNA levels for metastasis associated genes in murine tumor cells, thus providing further evidence that one of skill in the art cannot anticipate that the level of a specific mRNA expressed by a cell will be paralleled at the protein level due to complex homeostatic factors controlling translation and post-translational modification. Thus, predictability of protein translation is not necessarily contingent on mRNA expression due to the multitude of homeostatic factors affecting transcription and translation.

Since there is not evidence showing the expression of protein or polypeptide of SEQ ID NO: 6 in uterine endometrial adenocarcinoma or normal uterine cells, the antibody for polypeptide of SEQ ID NO: 6 would not bind to the uterine cells, which express only mRNA of DNA59610 or SEQ ID NO: 3. Since the specification has not correlated the claimed method of binding an antibody to a human uterine cells with the expression of mRNA of DNA59610 or SEQ ID NO: 3 only (not a protein) in the cells, instant method claims recited binding an antibody to human uterine cells that express a protein consisting of amino acid shown as SEQ ID NO: 6 do not meet the requirement of 35 U.S.C. 101.

If a molecule is to be used as a surrogate for a disease state some specific disease state must be identified in some way with the polynucleotide or polypeptide encoded therefrom. There must be some expression pattern or evidence of altered form that would allow the claimed polypeptides or polynucleotides to be used in a diagnostic manner. Many proteins are expressed in normal tissues and diseased tissues. Therefore one need to now that the claimed polypeptides or polynucleotides is present only in diseased tissue to the exclusion of normal tissue or present in diseased tissue at higher levels or in a different form from that present in normal tissues. However, in the absence of any disclosed relationship between the claimed SEQ ID NO: 6 and any disease or disorder, any information obtained in an effort to establish a differential expression pattern would constitute further research on establishing a

specific, substantial, and credible utility for the method reliant on the presence of SEQ ID NO: 6 in uterine cells. "Congress intended that no patent be granted on a chemical compound whose sole 'utility' consists of its potential role as an object of use-testing". Therefore, without objective evidence that the binding of an antibody to SEQ ID NO: 6 expressed on a cell is indicative of some pathological state, the instant claims lack a specific, substantial, and credible asserted utility.

Claims 17-26 are also rejected under 35 U.S.C. 112, first paragraph. Specifically, since the claimed invention is not supported by either a specific, substantial, and credible asserted utility or a well established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention.

Conclusion

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lei Yao, Ph.D. whose telephone number is 571-272-3112. The examiner can normally be reached on 8am-4.30pm Monday to Friday.

Any inquiry of a general nature, matching or file papers or relating to the status of this application or proceeding should be directed to Kim Dowining for Art Unit 1642 whose telephone number is 571-272-0521

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Siew can be reached on 571-272-0787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LY

KAREN A. CANELLA PH.D
PRIMARY EXAMINER

Lei Yao, Ph.D.
Examiner
Art Unit 1642